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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/656,665

09/05/2003

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07/31/2006

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EXAMINER

PICO, ERIC E

ART UNIT

PAPER NUMBER

3654

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/656,665

Applicant(s)

KOCHER ET AL.

Examiner

Eric Pico

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05/12/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 22 (second occurrence) and 23 have been renumbered 23 and 24.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim(s) 10-13 and 21-24 is/are rejected under 35 U.S.C. 102(e) as being anticipated by Nakagaki et al. U.S. Patent No. 6598707.

4. **Regarding claim 10**, Nakagaki et al. discloses an elevator installation having a car, referred to as cage 20, and a counterweight 30 connected by a drive means,

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referred to as front and back hoist cables 50, 60, and movable in an elevator shaft comprising an elevator shaft 7, an elevator car 30 movable in the elevator shaft 7 along a pair of car guides 22, 23 mounted in the elevator shaft 7, a counterweight 30 movable in the elevator shaft 7 along a pair of counterweight guides 31, 32 mounted in the elevator shaft 7, a crossbeam, referred to as connecting beam 33, attached to the counterweight guides 31, 32 and one of the car guides 22, and a gearless drive motor, referred to as hoist 41, mounted on the crossbeam 33 for engaging the drive means 50, 60 and moving the car 20 and the counterweight 30 in the elevator shaft 7, the drive motor 41 being connected by a drive shaft 42, 43 to a pair of drive pulleys 44, 45 engaging the drive means 50, 60, the drive pulleys being adjacent one another and positioned on opposite sides of one of the car guides 22.

5. **Regarding claim 11**, Nakagaki et al. discloses two drive means 50, 60 connecting the car 20 and the counterweight 30, each drive means 50, 60 having two ends, referred to as anchoring ends 53, 57, 63, 67, and each of the ends 53, 57, 63, 67 being fixed to one of the car guides 23, via cage-side hitching beam 25, and the crossbeam 33.

6. **Regarding claim 12**, Nakagaki et al. discloses two drive means 50, 60 connecting the car 20 and the counterweight 30 and wherein the drive means 50, 60 are belts.

7. **Regarding claim 13**, Nakagaki et al. discloses the car 20 is suspended in the elevator shaft 7 with a 2:1 ratio and the drive motor 41 is arranged in a region above a

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travel path of the counterweight 30 in the elevator shaft 7, shown in Figures 1, 2, 4, and 5.

8. **Regarding claim 21**, Nakagaki et al. discloses an elevator installation having a car 20 and a counterweight 30 connected by a drive means 50, 60 and movable in an elevator shaft 7 comprising a pair of car guides 22, 23 adapted to be mounted in the elevator shaft 7, a pair of counterweight guides 31, 32 adapted to be mounted in the elevator shaft 7, a crossbeam 33 attached to the counterweight guides 31, 32 and one of the car guides 22, a drive motor 41 mounted on the crossbeam 33 and connected to a drive shaft 42, 43, a pair of drive pulleys 44, 45 adapted for engaging the drive means 50, 60 to move the car 20 and the counterweight 30 in the elevator shaft 7 wherein the drive pulleys 44, 45 are connected to the drive shaft 42, 43 and are positioned adjacent to one another on opposite sides of an imaginary line connector extending between the car guides 22, 23.

9. **Regarding claim 22**, Nakagaki et al. discloses the counterweight guides 31, 32 and the car guides 22, 23 are positioned at apices of a substantially horizontal triangle and end regions of the crossbeam 33 are fastened to respective ones of the counterweight guides 31, 32.

10. **Regarding claim 23**, Nakagaki et al. discloses a center region of the crossbeam 33 is attached to one of the car guides 22.

11. **Regarding claim 24**, Nakagaki et al. discloses the drive motor 41 is in an area of the triangle substantially above the counterweight 30.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim(s) 1-4, 8, and 9 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagaki et al. U.S. Patent No. 6598707 in view of Cox U.S. Patent No. 3559768.

1. **Regarding claim 1**, Nakagaki et al. discloses an elevator installation having a car, referred to as cage 20, and a counterweight 30 connected by a drive means, referred to as front and back hoist cables 50, 60, and movable in a shaft 7 comprising a pair of car guides 22, 23 adapted to be mounted in the shaft 7, a pair of counterweight guides 31, 32 adapted to be mounted in the shaft, a crossbeam, referred to as connecting beam 33, attached to the counterweight guides 31, 32 and to car guide 22, and a drive motor, referred to as hoist 41, mounted on the crossbeam 33 and coupled to a pair of drive pulleys, referred to as front and back traction sheaves 44, 45, adapted for engaging the drive means 50, 60 to move the car 20 and the counterweight 30 in the elevator shaft 7 wherein the drive pulleys 44, 45 are operatively connected by a drive shaft with the drive motor and a brake.

2. Nakagaki et al. is silent concerning the drive pulleys are arranged between the drive motor and the brake on the drive shaft.

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3. Cox teaches drive pulleys, referred to as traction sheaves 11, 25, arranged between a drive motor, referred to as electric motor 14, and a brake, referred to as brake drum 15, on a drive shaft 12, 24.
4. It would have been obvious to one of ordinary skill in the art at the time of the invention to arrange the pulleys disclosed by Yasuda et al. between a drive motor and a brake as taught by Cox to equally distribute the load on the shaft between the drive motor, drive pulleys, and the brake.
5. **Regarding claim 2**, Nakagaki et al. discloses the drive pulleys 44, 45 are arranged on opposite sides of an imaginary line horizontal connector of the car guides 22, 23.
6. **Regarding claim 3**, Nakagaki et al. discloses the drive means are belts, referred to as front and back hoist cable 50, 60.
7. Nakagaki et al. is silent concerning the drive pulleys are smaller in diameter than the drive motor and/or brake.
8. Cox teaches drive pulleys 11, 25 are smaller in diameter than the drive motor 14 and brake 15.
9. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the diameter of the drive pulleys disclosed by Nakagaki et al. smaller than the drive motor and brake as taught by Cox because a smaller diameter sheave results in a reduced torque and an increased rotation speed of the drive motor, which increases the efficiency of the drive motor.

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10. **Regarding claim 4**, Nakagaki et al. discloses the drive pulleys 44, 45 are arranged adjacent sides of one of the car guides 22.

11. **Regarding claim 8**, Nakagaki et al. further discloses the counterweight guides 31, 32 and the car guide 22 are positioned at apices of a substantially horizontal triangle and the crossbeam 33 is fastened at end regions to the counterweight guides 31, 32 and at a center region to the car guide 22.

12. **Regarding claim 9**, Nakagaki et al. further discloses the car guides 22, 23 and counterweight guides 31, 32 are arranged to extend substantially vertically in the elevator shaft and the crossbeam 33 is arranged to extend substantially horizontally in the elevator shaft.

13. Claim(s) 5-7 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagaki et al. U.S. Patent No. 6598707 in view of Cox U.S. Patent No. 3559768 as applied to claim 1 above; and further in view of Yasuda et al. U.S. Patent No. 6488124.

14. **Regarding claim 5**, Nakagaki et al. is silent concerning the drive motor and the brake are mounted on a bracket fastened to the crossbeam.

15. Yasuda et al. teaches a drive motor 126 and a brake 118 are mounted on a bracket, referred to as support legs 120, fastened to the crossbeam 108

16. It would have been obvious to one of ordinary skill in the art at the time of the invention to mount the drive motor and the brake disclosed by Nakagaki et al. on a bracket fastened to the crossbeam as taught by Yasuda et al. to facilitate the connection between the drive motor and the brake, and the crossbeam.

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17. **Regarding claim 6**, Nakagaki et al. is silent concerning a bracket mounted at a center region of the crossbeam.

18. Yasuda et al. teaches the bracket 120 is mounted at a center region of the crossbeam 108.

19. It would have been obvious to one of ordinary skill in the art at the time of the invention to mount the bracket as taught by Yasuda et al. at a center region of the crossbeam disclosed by Nakagaki et al. to facilitate the connection between the drive motor and the brake, and the crossbeam.

20. **Regarding claim 7**, Nakagaki et al. is silent concerning the drive pulleys arranged substantially in a region within an enclosure of the bracket.

21. Cox teaches drive pulleys 11, 25 arranged substantially in a region within an enclosure of the brackets, not numbered but shown attached to of the elevator shaft shown in Figure 1.

22. It would have been obvious to one of ordinary skill in the art at the time of the invention to arrange the drive pulleys disclosed by Yasuda et al. substantially in a region within an enclosure of the bracket to make the drive pulleys readily accessible with the bracket.

23. Claim(s) 14 and 15 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagaki et al. U.S. Patent No. 6598707 in view of Yasuda et al. U.S. Patent No. 6488124.

24. **Regarding claim 14**, Nakagaki et al. discloses a car 20 suspended in an elevator shaft 7 with a 2:1 ratio and a drive motor 41.

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25. Nakagaki et al. is silent concerning a drive motor arranged in a region above a travel path of the car.

26. Yasuda et al. teaches a car 101 suspended in an elevator shaft 103 with a drive motor 126 arranged in a region above a travel path of the car 101, shown in Figures 4-6 20, 21A, 21B, and 31-33.

27. It would have been obvious to one of ordinary skill in the art at the time of the invention to arrange the drive motor disclosed by Nakagaki et al. in a region above a travel path of a car as taught by Yasuda et al. to overcome elevator shaft size and shape constraints.

28. **Regarding claim 15**, Nakagaki et al. discloses a car 20 suspended in an elevator shaft 7 with a 2:1 ratio and a drive motor 41.

29. Nakagaki et al. is silent concerning a drive motor arranged in a region above a travel path of the car and a travel path of the counterweight.

30. Yasuda et al. teaches a car 101 suspended in an elevator shaft 103 with a drive motor 126 arranged in a region above a travel path of the car 101 and a travel path of the counterweight 102, shown in Figures 4-6 20, 21A, 21B, and 31-33.

31. It would have been obvious to one of ordinary skill in the art at the time of the invention to arrange the drive motor disclosed by Nakagaki et al. in a region above a travel path of a car and a travel path of a counterweight as taught by Yasuda et al. to overcome elevator shaft size and shape constraints.

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32. **Regarding claim 16**, Nakagaki et al. is silent concerning the car suspended in the elevator shaft with a 1:1 ratio and the drive motor arranged in a region above a travel path of the car.

33. Yasuda et al. teaches a car 101 is suspended in an elevator shaft 103 with a 1:1 ratio and the drive motor 126 is arranged in a region above a travel path of the car 101, shown in Figures 4-6 20, 21A, 21B, and 31-33.

34. It would have been obvious to one of ordinary skill in the art at the time of the invention to suspend the car disclosed by Nakagaki et al. in an elevator shaft with a 1:1 ratio as taught by Yasuda et al. and arrange the drive motor disclosed by Nakagaki et al. in a region above a travel path of the car as taught by Yasuda et al. to overcome elevator shaft size and shape constraints.

Response to Arguments

35. Applicant's arguments filed 05/08/2006 have been fully considered but they are not persuasive.

36. With respect to applicant's argument that it is improper to combine Yasuda et al. U.S. Patent No. 6488124 with the teachings of Cox U.S. Patent No. 3559768 because Yasuda et al. teaches away from the Cox modification. The argument that Yasuda et al. teaches away from Cox relies upon the assertion that because Yasuda et al. teaches that the traction sheaves 110 are positioned between the shaft wall and the car wall so as not to interfere with the car at the top of the elevator shaft and provide space savings, Yasuda et al. teaches away from Cox. This argument is without merit because,

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while the preferred embodiment of Yasuda et al. may show traction sheaves 110 positioned between the shaft wall and the car wall, a statement indicating the desirability of having a traction sheave connected between a drive motor and brake on a drive shaft in no way criticizes, discredits, or otherwise discourages the solution claimed. Yasuda et al., therefore, in no way teaches away from Cox.

37. With respect to applicant's argument that the brackets are separate and do not form an enclosure for the traction sheave is not persuasive. The bracket taught by Cox encloses the traction sheave on the left and right side shown in Figure 1.

38. With respect to applicant's argument "Yasuda clearly identifies the elements 111 as ropes, not belts" is not persuasive. The term belt as defined by www.dictionary.com is a continuous band or chain for transferring motion or power or conveying materials from one wheel or shaft to another Yasuda's ropes clearly falls within the definition of a belt. Furthermore, applicant's disclosure states, "The drive means 19, 19' is a cable and/or belt of any form," Page 5 Lines 8 and 9, Yasuda's rope is clearly a form of a belt. Finally, applicant's disclosure states, "The belt can be flat" Page 5, Line 12 explaining that not all belts are flat and may be of other cross sections such as the rope described by Yasuda.

Conclusion

39. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Pico whose telephone number is 571-272-5589. The examiner can normally be reached on 6:30AM - 3:00PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katherine Matecki can be reached on 571-272-6951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

EILEEN D. LILLIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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